

# New records of bathypelagic fishes from the Arabian sea with description of a new species<sup>1</sup>

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(With seven text-figures)

The Research Vessel *Varuna* and Fishing Vessel *Velameen* of the Integrated Fisheries Project (formerly Indo-Norwegian Project) during their exploratory cruises for assessment of Deep Sea Resources along the West Coast of India within the depth range of 100 to 225 fathom collected a number of interesting species of fishes. Among these, *Halimochirurgus triacanthus* Fowler (1934), *Parasphenenthius weberi* Gilchrist (1922), *Sibogapistus pleurostigma* Weber (1913), *Acanthocephala cuneata* Smith (1936), *Ariosoma balearica* (da la Roche 1923) and *Caecula lumbricoides* (Bleeker 1864) are new to West Coast of India, while one Heterosomate fish belonging to the genus *Zebrias* appears to be a new species. The gear used was a small trawl net of 6 m, operated with 54 × 34 cm otter boards, weighing 58 kilograms each.

The specimens described in this paper are lodged in the museum of the Marine Research Laboratory of the Integrated Fisheries Project.

## Family TRIACANTHODIDAE

### *Halimochirurgus triacanthus* Fowler (Fig. 1)

*Halimochirurgus triacanthus* Fowler, 1934, Proc. Acad. Nat. Sci. Phil. 86; Berg, 1947, Classification of fishes both recent and fossil

<sup>1</sup> Accepted May 1974.

D. 111, 12, A. 10, P. 7, V. 1 (Spine only)  
Head 2.2 in total length and 1.9 in standard length. Depth of body 5.5 in total length and 4.7 in standard length. Eye 6.3 in head and 0.8 in inter orbital space. Fish laterally compressed, snout generally extended, tube like, mouth on the dorsal side of the tube at its terminal part. General body surface rough and with small spiny scales, operculum vertical slit like opening, edge soft. First dorsal with three spines, the first being with locking mechanism. All the three spines fit in a groove over the dorsal side. Ventral with a single long spine with locking mechanism. Encircling the eye a reddish stripe extends to the snout end. Orange above, silvery below, fins with reddish margin.

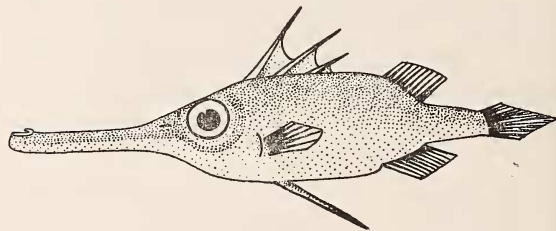


Fig. 1. *Halimochirurgus triacanthus* Fowler, 99 mm.

OCCURRENCE: One specimen (99 mm) off Calicut at Station No. 72, 11°26' N, 74°47' E, 160 fathom, 3-vii-1969.

DISTRIBUTION: China Sea off Southern Luzon. Berg (1947) included this species under the family Triacanthidae, but, expressed a doubt as to its true systematic position. He feels that this species perhaps may represent a distinct family. The species shows characters of both Syngnathid and Triacanthid.

## Family OWSTONIIDAE

***Parasphenenthias weberi* (Gilchrist) (Fig. 2)**

*Owstonia weberi* Gilchrist, 1922, Fish Mar. Surv. Spec. Rep. 3; Barnard, 1925, Annals S. Afr. Mus. 21; *Parasphenenthias microlepis* Fowler, 1934, Proc. Acad. Nat. Sci. Phil. 86; *Parasphenenthias weberi* Smith, 1949, The Sea Fishes of Southern Africa

D. 111, 23, A. 1, 16, P. 17, V. 1, 5

Head 5.9 in total length and 3.5 in standard length. Depth of body 6.7 in total length and 4.0 in standard length. Eye 3.1 in head and 0.7 in inter orbital space. Drop shaped body with large cycloid scales. Oblique mouth, bearing a single row of conical teeth on the jaws. Teeth at symphysis of the lower jaw

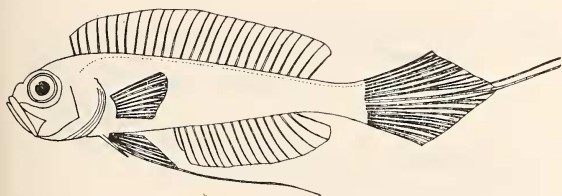


Fig. 2. *Parasphenenthias weberi* (Gilchrist), 413 mm.

fit into a depression in the upper jaw. Eyes large. Angle and lower margin of the preopercle not serrated, no spines on the pre-opercle. Dorsal with three and anal with one weak spines. Ventral spine strong. Caudal lanceolate, rays branched, middle being with two very long branches. Ventral with five rays first being very long. Lateral lines run along the dorsal base, the lines of both sides unite in front of the dorsal and end below the last dorsal ray. Colour crimson-red.

OCCURRENCE: Two specimens [413 mm (Fig. 2) and 247 mm] off Calicut at Station No. 77, 11°24' N, 74°49' E, 140 fathom, 4-vii-1969.

DISTRIBUTION: Natal to Zanzibar down to 200 fathom, related forms in Japan. Original record from South Africa.

## Family SCORPAENIDAE

***Sibogapistus pleurostigma* Weber (Fig. 3)**

*Paracentropogon pleurostigma* Weber 1913, Siboga Exp. Fische. 57; *Sibogapistus pleurostigma* Weber & Beaufort, 1962, Fish Indo-Aust. Archip. 11

D. 111, 12, A. 111, 6, P. 12, V. 1, 5

Head 5.1 in total length and 7.0 in standard length. Depth of body 3.4 in total length and 2.6 in standard length. Eye 3.9 in head and 1.3 in inter orbital space. Body laterally compressed and covered with rudimentary scales. Head naked, anterior profile blunt with a distinct concavity. Inter orbital space with three longitudinal grooves. Maxillary extends to below the hind margin of eye. Preorbital with two spines, a short anterior and a long posterior. Pre-opercle with a spine at the hind margin, four rudimentary ones below, no opercular spines. Dorsal arise above the anterior margin of the pupil. First spine smallest and the third longest. Rays of all fins feebly forked. Twenty two tubes discernible in the

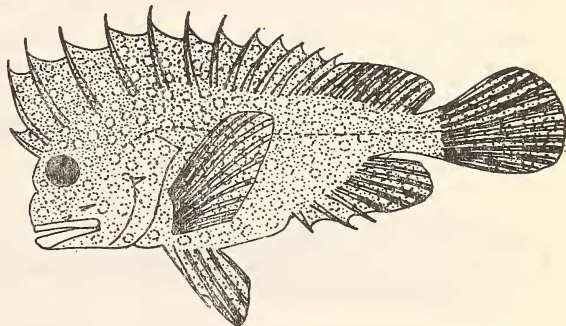


Fig. 3. *Sibogapistus pleurostigma* Weber, 157 mm.

lateral line. Caudal rounded. Brownish with irregular spots. A dark brown blotch on the body behind the operculum.

**OCCURRENCE:** One specimen (157 mm) off Calicut at Station No. 72, 11°26' N, 74°47' E, 160 fathom, 3-vii-1969.

**DISTRIBUTION:** Between Sala Unatti and Misol. *S. pleurostigma* has been reported only from the type locality (Weber 1962). Weber's specimen measured only 50 mm. The present specimen measuring 157 mm agrees with Weber's description but for the presence of three longitudinal grooves on the inter-orbital space and the feebly branched rays of the fins.

#### Family CEPOLIDAE

##### *Acanthocepola cuneata* Smith (Fig. 4)

*Acanthocepola cuneata* Smith, 1936, Records Albany Mus. 5; Smith, 1949, The Sea Fishes of Southern Africa

D. 72-75, A. 81-85

Head 7.5 to 7.7 in total length and 6.9 to 7.0 in standard length. Depth of body 9.2 to 9.4 in total length and 8.4 to 8.6 in standard length. Eye 3.2 to 3.5 in head and 0.7 to 0.8 in inter-orbital space. Body elongated, laterally compressed with minute scales. Cleft of mouth oblique with a single row of fine teeth. Eyes large and lateral. A long dorsal and anal fin continuous with the caudal. Lateral line runs along the base of the dorsal. Ventral thoracic. Gill openings wide, the membrane scarcely united under the throat. A black spot between 8th and 12th rays of the dorsal. The



Fig. 4. *Acanthocepola cuneata* Smith, 302 mm.

outer edge of the dorsal and anal black. Colour red.

**OCCURRENCE:** Three specimens [302 mm (Fig. 4), 296 mm and 298 mm] off Cannanore at Station No. 145, 12°28' N, 74°14' E, 150 fathom, 17-xii-1969.

**DISTRIBUTION:** Natal. Related species down to Pacific and to China.

#### Family CONGRIDAE

##### *Ariosoma balearica* (da la Roche) (Fig. 5)

*Congermuraena balearica* Barnard, 1923, Annals S. Afr. Mus. 13; *C. australis* Barnard, 1925, Annals S. Afr. Mus. 21, pt 1; *Ariosoma balearica* Fowler, 1936, Bull. Amer. Mus. Nat. Hist. 70.

Head 7.0, depth of body 17.0, both in total length. Eye 8.3 in head. Body robust with loose skin, scales absent. Dorsal and anal confluent with caudal. Mouth fairly large, not extending beyond eye. Teeth small. Dorsal start above pectorals. Colour plain brownish, slightly lighter below. Posterior edge of dorsal and anal fins white.

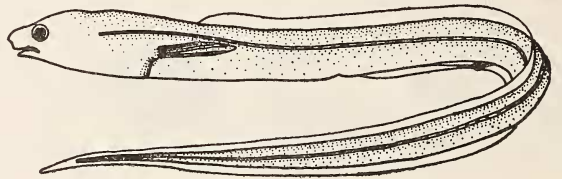


Fig. 5. *Ariosoma balearica* (de la Roche), 99 mm.

**OCCURRENCE:** One specimen (99 mm) off Alleppey at Station No. 35, 09°35' N, 75°45' E, 200 fathom, 4-ix-1969.

**DISTRIBUTION:** Mediterranean and tropical Atlantic, mostly in deep water.

#### Family OPHICHTHIDAE

##### *Caecula lumbricoides* (Bleeker) (Fig. 6)

*Ophichthys lumbricoides* Bleeker, 1864, Atlas Ichth. Ind. Neerl. 4; *Caecula lumbricoides* Munro, 1955, The Marine and Fresh Water Fishes of Ceylon

Head 14.0, depth of body 56.0, both in total length. Elongated slender cylindrical naked body. Eyes small. Tongue present. Pectorals absent. Mouth cleft reaching far behind eye. Teeth small pointed. Gill openings small oblique slits. Tail pointed without fins at end. Dorsal and anal not traceable. Colour brownish.

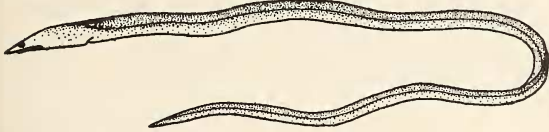


Fig. 6. *Caecula lumbricoides* (Bleeker), 225 mm.

**OCCURRENCE:** One specimen (225 mm) off Calicut at Station No. 164, 11°22' N, 74°31' E, 200 fathom, 9-i-1970.

**DISTRIBUTION:** Mostly in tropical waters. Related species from East Africa and Madagascar.

#### Family SOLEIDAE

##### *Zebrias maculosus* sp. nov. (Fig. 7)

**MATERIAL:** Three specimens were obtained from the Arabian sea—two off Alleppey, St. No. 256, 09°30' N, 75°50' E, 150 fathom, 18-iii-1972, and one at St. No. 380, 09°35' N, 75°50' E, 150 fathom, 25-ii-1973.

**HOLOTYPE:** No. INP-F. 55a. Total length 134 mm. Standard length 128 mm. Depth of body 3.5 in total length and 3.4 in standard length. Mouth 2.7 in head. Eye 6.0 in head and 0.6 in inter-orbital space. Nasal tube 15.0 in head.

**PARATYPES:** No. INP-F. 55b. Total length 120 mm. Standard length 110 mm. Depth of body 3.2 in total length and 2.8 in standard length. Head 4.3 in total length and 3.8 in standard length. Mouth 2.8 in head. Eye 5.6

in head and 0.6 in inter-orbital space. Nasal tube 14.0 in head.

b) No. INP-F. 55c. Total length 130 mm. Standard length 122 mm. Depth of body 3.2 in total length and 2.8 in standard length. Head 4.2 in total length and 3.7 in standard length. Mouth 2.6 in head. Eye 5.1 in head and 0.7 in inter-orbital space. Nasal tube 15.5 in head.

**DIAGNOSIS:** Scales moderately ctenoid with one series of spinules. Eyes in a straight line one below the other and without tentacles. Dorsal with 58 to 66 rays. Anal with 50 to 54 rays. 120 to 135 scales in a longitudinal series. Posterior rays of dorsal and anal completely joined to caudal.

**DESCRIPTION:** Eyes on right side nearly contiguous, in a straight line, the lower one is slightly larger than the upper one. Anterior nostril of coloured side at the end of a short tube. Nostril of blind side more or less hidden by a membranous flap. Mouth curved reaching one-third of lower eye. Lips on blind side fringed. Anterior part of head on blind side covered by fleshy filaments. Snout produced into a tapering point overhanging the mouth. Lower jaw not prominent. Preopercle edge covered by skin. A row of fringes along the preopercular border of blind side. Lateral line straight on both sides. Dorsal beginning above and somewhat before eyes. Anterior rays not enlarged and shorter than others. Dorsal and anal continuous with caudal with scarcely distinct and rounded posteriorly. Pectorals very small with broad base and connected by a fold with upperpart of branchiostegal membrane. Pelvic short, free from each other and from anal. Right one connected with genital papilla. Scales ctenoid on both sides. Inter-orbital space scaly. Scales on head and neck of same size as others. Rays of vertical fins scaly. Colour of the fresh specimen

brownish with dark patches and spots. Patches and spots arranged as shown in figure 7.

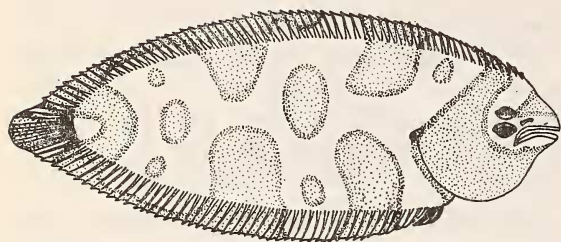


Fig. 7. *Zebrias maculosus* sp. nov.

HOLOTYPE AND PARATYPES: Integrated Fisheries Project Marine Research Laboratory.

TYPE LOCALITY: 09°30' N, 75°50' E, 150 Fathom.

DISTRIBUTION: Arabian Sea, Indian Ocean.

REMARKS: Major works on flatfishes from Indian waters are of Day (1878), Norman (1927 & 1928), Weber & Beaufort (1929) and Munro (1955). Abraham (1963) has given a comparatively good account on the flatfishes collected by the Research Vessel *Conch* of Kerala University. Three species of *Zebrias*

TABLE

COMPARATIVE ACCOUNT OF CHARACTERS OF THE SPECIES OF *Zebrias* ALREADY RECORDED FROM THE INDIAN WATERS AND OF THE NEW SPECIES

Characters	<i>Z. synapturoides</i>	<i>Z. quagga</i>	<i>Z. altipinnis</i>	<i>Z. maculosus</i>
Mouth	extending to below middle of eye or not quite as far.	extending to below anterior part of eye.	extending to below middle or anterior part of eye.	extending to below one third of lower eye.
Eyes	without tentacles, nearly contiguous, the upper a little in advance of the lower.	with tentacles, nearly contiguous, the upper a little in advance of the lower.	without tentacles, nearly contiguous, the upper a little in advance of the lower.	without tentacles, nearly contiguous, both in a straight line, the lower one slightly larger than the upper one.
Dorsal fin rays	69 - 74	67 - 75	79 - 83	58 - 66
Anal fin rays	59 - 63	56 - 61	65 - 71	50 - 54
Scales	strongly ctenoid, single series of strong spinules on the posterior edge.	moderately ctenoid, with several series of spinules posteriorly.	moderately ctenoid, with one or two series of spinules posteriorly.	moderately ctenoid, with one series of spinules posteriorly.
No. of scales in a longitudinal series	66 - 71	92 - 99	105 - 112	120 - 135
Colour	Greyish, with a number of dark brown cross bands.	Pale brownish or greyish with a number of dark brown cross bands.	Pale brownish or greyish with a number of dark brown cross bands.	Brownish with a number of dark patches and spots.

were described from the Indian Coasts by Norman (1928), i.e. *Z. synapturoides*, *Z. quagga* and *Z. altipinnis*. Table 1 gives a comparative account of the characters of the species of *Zebrias* already recorded from the Indian waters and of the new species. The new species shows distinct characters of difference from other species of *Zebrias* described earlier. The characters like form and arrangement of spots and patches, the number of scales in a longitudinal series, the number of rays for dorsal and anal fins, the number and arrangement of spinules on the scales and the position and size of eyes and absence of ten-

tacular structures are worth mentioning. The new species is characterised particularly by its blotches and spots by which I name this species *maculosus*.

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